
MEMORANDUM – OFFICE OF THE TOWN ADMINISTRATOR

TO: Board of Selectmen
FROM: Carter Terenzini, Town Administrator *Carter*
RE: States Landing Recap
DATE: November 15, 2013
CC: Advisory Budget Committee



As authorized by you last fall we have been engaged in an effort to determine the needs and desires of the neighborhood adjacent to and users of the States Landing Facility. You will find attached the numerous documents that have been developed during that effort and in accord with your approval of our memo of 05/24/13.

In follow-up to our year long planning effort, I am requesting \$25,000 to initiate improvement efforts as generally outlined in this report now submitted as a single assembled document as follows:

- Tree, mulch and barrier work as generally outlined in the report of the arborist and the proposal of Belknap Landscaping;
- Commence discussion with Suissevale for a swap of town owned lands within that complex and their donation of the overflow parking lands;
- Permitting of certain "Rain Garden" work at the boat launch. Finally I seek your decision as to the proposed realignment of Castle Shores Road.

You will find attached numerous reports.

Appendix A - Design Charrette 05/18/13

Appendix B - Arborist Report 04/12/13

Appendix C - NH Lakes Report 11/01/13

Appendix D - Overflow Parking Report 10/01/13

Appendix E - Castle Shores Road Alignment Report 10/21/13

Appendix F - Dredging Report 10/29/13

Appendix G - Boat Launch Estimate 11/7/13

Appendix H - Belknap Landscaping 11/06/13

MEMORANDUM – OFFICE OF THE TOWN ADMINISTRATOR

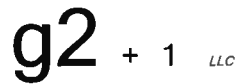
TO: SelectBoard
FROM: Carter Terenzini, Town Administrator *Carter*
RE: States Landing Road Work & Facility Planning
DATE: 05/24/13
CC: D. Kuethe; S. Kinmond



ADOPTED BY SELECTBOARD ON MAY 30, 2013

I write to seek your formal action on the next steps for these two projects. This is based upon my memo of 05/23, the attachments thereto, and the discussion in the workshop of that date.

- A. **Advise the Community** of your intention to continue to own the property and address short term and long range capital and maintenance issues to make it a meaningful park facility;
- B. **Advise the Road Agent/DPW Director** of your decision above and the need for him to maintain the facilities on par with other similar Town facilities;
- C. **Advise the Road Agent/DPW Director** to move the road reconstruction monies to Old Route 109, stopping south of the Route 109/25 intersection, while the various issues raised by the States Landing neighborhood are given further investigation (moving mailboxes, T-intersection, speed enforcement and the like);
- D. **Request the Town Engineer** to provide a budget estimate for an application for - and the timeline to obtain - a dredging permit along with an approximate cost of the dredging;
- E. **Request the Town Administrator** to approach Suissevale to explore possible Town use and/or acquisition of their lands along States Landing as outlined in the meeting notes;
- F. **Advise the Road Agent/DPW Director** you are agreeable to backfilling the DPW budget, if need be, with up to \$7.5k for the recommended tree removals and pruning and fence installations as outlined in the report of the State Forester & Arborist report. That said, while the Board very much appreciates the efforts to keep expenditures to a minimum, it wishes to express their concern over the advisability of how much of the work load the department attempts to accomplish with in-house work force versus contracting; and
- G. **Advise the inquiring parties** as to the findings of the non-feasibility of Clarks Landing as a boat launch, the deferral of the question about the allowance for private parties piggybacking onto any dredging applications and activities, and a request that the Town Administrator investigate the costs and advisability of making available for public purchase the Town seal as a decal.



Landscape Architecture Site Planning Graphics

70 New Road Salisbury New Hampshire 03268
p/f. 603 648 6434 www.g2plus1.com

November 13, 2013

Carter Terenzini
Town Administrator
Town of Moultonborough
6 Holland St - PO Box 139
Moultonborough, NH 03254

RE: States Landing Design Charrette Summary

Carter,

Described below is my summary of the work done to create a conceptual design for the States Landing beach and park area. The work was done in a one day "Charrette" format and in conjunction with a cleanup day that occurred at the site with volunteers and interested citizens of the town.

The project included review of background information related to past discussions and initiatives to improve the beach and park, base map preparation, a site evaluation to understand its features, discussions with town residents as they cleaned up the park site, an off site preparation of concepts and presentation materials. Work concluded with the presentation of a design to the residents on site while enjoying the benefits of an outdoor barbeque. What follows is a detailed summary of these general tasks.

A. Background Information

A great deal of background information was available that described the nature of the States Landing beach and park area. This included maps illustrating various categories of information about the States Landing property, minutes of past meetings with residents to solicit their thoughts and opinions as to what should or should not be done at the site and a number of studies conducted relative to the quality of the beach area and the park's woodland.

B. Base Map Preparation

For a "Charrette" study of one day duration an accurate base map is still required to evaluate, design and illustrate a study area. A number of sources were used on which to prepare this project's base map. Granit Systems at UNH was used to download 2011 color

aerial coverage of the States Landing property. The aerial was combined with current tax map and GIS resource information provided by the Moultonborough planning department. The composite map illustrated color aerial photography, existing tree lines, Lake Winnepesaukee, USGS topography, street right of ways, lots, buildings, and driveways, etc.

All these existing features were useful in describing the general character of the study area. The aerial also provided enough detail to serve as a visual reference when walking the property to identify additional details and features useful in crafting a design. Finally, this aerial further served as the base map on which a site evaluation as well as conceptual design(s) could both be prepared during the Charrette.



Aerial Base Map of States Landing beach and park site

C. Site Evaluation

Prior to commencing the design process, we prepared a site evaluation of the study area. This was done to illustrate key features and issues that could or would affect the preparation of a conceptual design.

The site evaluation process started prior to the Charrette, with review of existing studies of the State's Landing property and environs. These included:

1. Moultonborough parcel summary based on the town's GIS mapping. The subject property is 6.20 acres in size. It occurs in the town's RA zone.

2. Site evaluation done by the NH Lakes Association, October 3, 2012, to investigate storm water run-off issues at the states landing boat ramp. The purpose of their study was to summarize observations made during a site visit and provide recommendations that could be made on the property to reduce the amount of storm water run-off that flows off site and into Lake Winnepesaukee.
3. States landing beach repair evaluation prepared by KV Partners in May 2010. This was done to examine beach and shoreline damages from the previous winter and some recent spring rainstorms. Damage consisted by erosion of the existing sand beach, gullyng and erosion of some existing lawn areas up slope and adjacent to the beach. Also, some deep erosion had occurred where concentrated water flow created deep holes and washouts. Recommendations were made to address this recent damage and corrective measures were taken.
4. States landing neighborhood meeting, January 19, 2013. This occurred to solicit the views of abutters and town residents familiar with, currently use or have used the beach and park in the past. A four page summary of comments resulted from this meeting. Many comments made served as a starting point for creating a redevelopment program for the beach and park and would guide preparation of concept plans.
5. Forest Evaluation of Sites Landing property by County Extension Forester and I.S.A. Certified Arborist, I.W. Nute, April 11, 2013. His recommendations centered on removal of dead, damaged or dying trees, replanting of trees and native shrubs to enhance the shoreline and some guidelines on parking cars in designated areas to prevent further tree damage from soil compaction. These ideas would enhance the park like setting town residents would like restored and would dovetail with the conceptual design.

In conjunction with these earlier studies, I then prepared a simplified site evaluation during the Charrette that was augmented with my own site observations that could directly affect a proposed conceptual design for the property.

Some obvious features observed included:

1. Evidence of uncontrolled truck/boat trailer parking along both sides of States Landing Road. On busy days it was stated by Charrette participants that +/- 25 truck/trailer units could be observed on busy days. The effect was soil compaction of surrounding trees which could cause their further decline. States Landing Road has +/- 24 feet wide pavement within a +/- 50 foot ROW. The road is not centered within the ROW but wanders from one side to the other along the park frontage.
2. A series of outdoor spaces were noted based on existing tree groupings, tree density and tree species. Some of these spaces suggest classic picnic park areas or places for

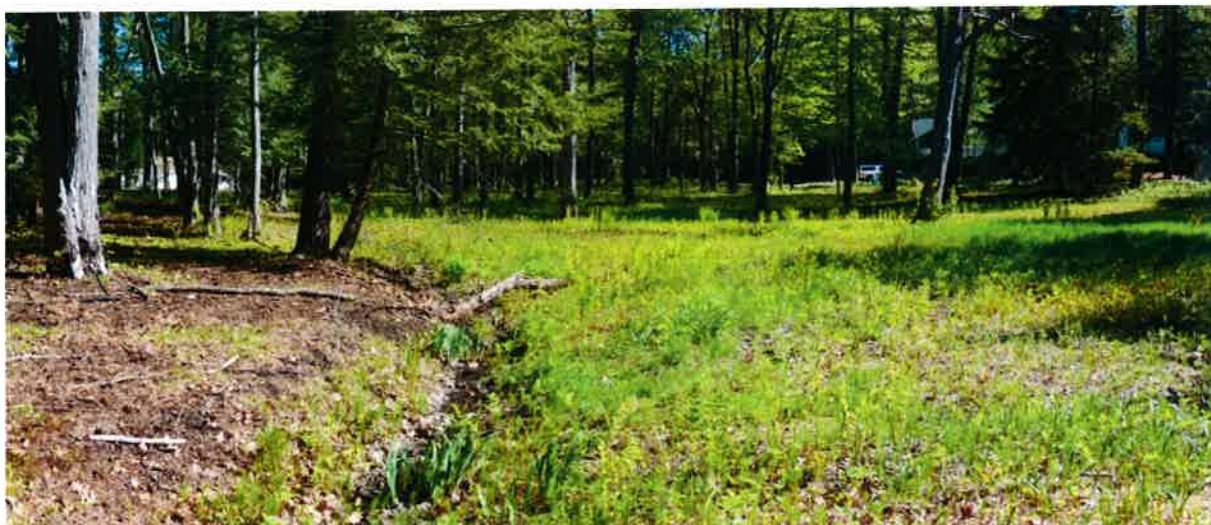
group use and passive play. Furthermore, the existing trees define the overall park space with their high canopies and "clean" trunks.

3. Conversely, the treed areas offer shelter from the sun and provide safe harbor for sitting, picnicking, etc.
4. Another feature observed on the property was a series of drainage ditches averaging 3-5' wide and 2' deep. These eventually tied into a couple of drop inlets with catch basins that were connected to buried drain pipe. This pipe eventually outfall into the lake via a 12" corrugated metal pipe.
5. One constraint observed was a 75' buffer or set back from the property's south boundary. This setback was included in the conveyance of the land to the town to buffer abutters to the south.
6. An undeveloped trail traverses the property in an east-west direction from Castle Shore Road to the Lakeshore and interior of the site.
7. There is evidence of an unimproved vehicular access that runs generally north to south from States Landing Road and ends near one of the drop inlets identified. Probably used to service the drainage system.
8. A guard shack/storage building occurs on-site about 100' up slope of the shoreline. It serves as a control point for beach and park users and for seasonal storage.
9. A sand beach occurs along about 100 LF of the shoreline between an unimproved boat launch area at the end of States Landing Road and the existing tree edge to the north. The beach is about 20' deep along its full length. Understand that the beach is little used due to significant situation from the shoreline and into the lake. This condition is uncomfortable and creates a silty water condition when users walk into it thus preventing practical and safe use of the beach.





Panoramic view of classic sand beach



Panoramic view of "Open and Sunny" park area near Castle Shore Road



Panoramic view of typical truck and boat trailer illustrating the challenge of their impact on park



View of trucks and trailers along park side of States Landing Road



View of unimproved boat launch area and related storm event erosion



View of paved ditch directing storm water directly into Lake



View of drainage ditch traversing the park property

D. Conceptual Design

After mingling with the clean-up volunteers the day of the Charrette, I had many impressions and ideas regarding how States Landing beach and park could be improved. Then, sequestered off-site in a resident's nearby home, I had two hours to graphically illustrate a site evaluation and conceptual design for presentation later that same day.

The concept design, although "rough", described many features that reflected what town residents wanted and what seemed to be natural improvements for the property. Features considered and discovered include:

1. Restoration of sand beach to 100' long x 20' deep dimensions. This is predicated on the immediate shoreline be dredged to remove accumulated silt and the area be replaced with sand to assure safe and enjoyable use.
2. Restore treed area directly adjacent to beach which offers a comfortable retreat for family members to "watch" the children in the water. Restoration includes removal of dead/dying trees, new tree plantings, new understory along its edges and prevention of uncontrolled parking within the trees.
3. Construct a new and stabilized boat ramp to prevent erosion along shoreline.
4. Construct some storm water management improvements along both sides of States Landing Road to prevent erosion and uncontrolled drainage into the lake. One option is to create a series of rain gardens to treat and detain storm water before it reaches the lake.
5. Delineate truck/trailer parking along States Landing Road where practical. Consider constructing a one-way loop road for truck/trailer parking along the south side of the states landing road and within the north side of the park property. A detailed site survey is needed to consider this idea in more detail by noting road edges, drainage features and existing trees (to remain or be removed). It's possible that 12 to 15 parallel truck/trailer parking spaces could be created and some additional ones along States Landing Road. In conjunction with this improvement, consider a resident's suggestion that a boat trailer parking overflow area be created on States Landing property owned by Suissevale.
6. In conjunction with the new boat launch residents felt a new boat dock could be constructed to the south end of the beach to allow for boat loading/unloading. Currently this occurs at the boat launch and causes conflicts that hampers the quick and efficient launching of boats.
7. Within the park interior a number of improvements could occur:

- a. Addition of a group use shelter/gazebo
- b. Refurbish/repurpose the existing guard shack
- c. Create one or two children's play areas between the park "woods" and the beach so parents can easily manage and watch their children as they use the beach and/or play areas
- d. Construct a series of picnic sites with charcoal BBQ's within the nearby woods. Some sites could also occur in the open area adjacent to the trees for those people wishing to be in the open and sun
- e. Create areas for horseshoe pits and possibly a volleyball court
- f. Construct a simple network of trails both by improving the existing trail along the park's south side and constructing another trail to connect States Landing Road and another point on Castle Shore Road into the interior of the park. All trails would connect to the group shelter, picnic sites and eventually the beach. Trails should be paved to provide for ADA access.
- g. Consider delineating a "Dog Park" to address needs of park users with dogs to manage dog/people conflicts
- h. Define some "passive use" park areas for those that just want to sit down, lie in the grass or just "hangout". These areas would offer some simple tranquility and be separated from the adjacent active areas

These park features illustrate many of the desires stated by town residents during a neighborhood meeting conducted to discuss redevelopment of States Landing. It also describes what volunteers expressed during the Charrette. This town input and my impressions of what features and improvements should be considered were then compiled into a meaningful design.



Charrette derived Concept Plan of States Landing beach and park site

After two hours of cloistered design, the concept plan and site evaluation were presented to the "clean up" day volunteers, town representatives and other interested residents for further comment and input.

E. The Next Step

Based on this site evaluation, resident input and a Charrette driven conceptual redevelopment plan of the States Landing beach and park area, the following steps should be considered:

1. Prepare a refined concept plan adding some precision that a two hour Charrette process didn't allow.
2. Define an overall redevelopment program for the beach and park and confirm that town and resident needs are being addressed.
3. Describe in detail all proposed improvements in terms of materials, quantities, type of construction and cost. The outcome of this task would be an Opinion of Cost based on the level of detail of a Concept Plan.

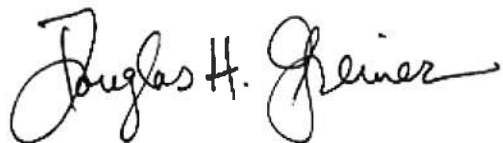
4. Coordinate with the town engineer the type and extent of proposed site, roadway, parking, boat launch, beach dredging and storm drainage improvements that are necessary to develop a meaningful, practical and cost effective park.
5. Present these findings to the town and its residents for comment and public input.

The estimated cost to fulfill the tasks of the "Next Step" would range between \$5,500 to \$7,500 depending upon the desired level of effort and schedule to complete. This estimated cost could serve as a budget item as you pursue the next steps on this project.

Give me a call to discuss should you desire more detail or comment on other issues I may have omitted. Thank you for letting g2+1 participate on this important town project.

Enjoy,

g2 + 1 LLC



Douglas H. Greiner, ASLA
Landscape Architect

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329 Mast Road, Room 101
Goffstown, NH 03045
(603) 641-6060
Fax: (603) 645-5252
extension.unh.edu



UNIVERSITY of NEW HAMPSHIRE
COOPERATIVE EXTENSION



Carter Terenzini, Town Administrator
PO Box 139
Moultonborough, NH 03254
Tel. 476-2347

Mr. Terenzini

April 12, 2013

It was good to meet you yesterday afternoon and look at the trees at the town States Landing Park on the lake. We marked 14 trees for removal because of their poor health and 7 trees for pruning of dead limbs (see list and maps attached). Five trees are within 50' of the shore (with 3 marked for removal) and 7 are very close to this (with 2 marked for removal). The Shoreland Water Quality Protection Act (SWQPA) restricts tree cutting within 50' of the shore, but allows exceptions for the removal of dead, diseased or unsafe trees evaluated by an arborist. This letter and maps will serve as that evaluation and you should also photograph each of the trees and keep this information in your files to show that this tree cutting is in compliance with the SWQPA (information enclosed).

To mitigate the loss of these 5 trees closest to the shore, I recommend planting 1 white oak tree of 2" caliper, 2 crabapple trees of 2" caliper and 5 high bush blueberry shrubs. This can be done next spring if the 5 trees are removed this year. I also recommend creating an island of wood chip mulch 2" deep edged with landscape timbers around the trees, starting at tree #1 and running to the grey birch clumps at the south end of the beach. This will be about 150' long and average 20' wide in an "amoeba" random curving design. This will protect the trees, contain the wood chips from washing onto the beach, create a more attractive appearance and prevent vehicles from driving from the parking area onto the beach.

Parking cars in the forest should be discouraged because it compacts the soil and damages the roots. Consider signage that restricts parking to the side of States Landing Road and the parking area. To prevent cars from parking under the trees from the parking area, consider erecting 10 foot sections of double rail wooden fence along the forest side of the drainage ditch. This is a distance of about 200'. Rather than having a continuous fence, plan on having 4' gaps between each 10' section to allow for walking from the parking area into the forest for picnicking, use of the portable toilet, etc.

Page one of two.

County Offices

Belknap County
527-5475

Carroll County
447-3834

Cheshire County
352-4550

Cooks County
788-4961

Grafton County
787-6944

Hillsborough County
1-6060

Merrimack County
796-2151

Rockingham County
679-5616

Sullivan County
863-9200

Education Center
629-9494 (Office)
877-398-4769 (Toll Free)

UNH Cooperative
Extension State Office
862-1520



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Page two of two.

The southern half of the park is a natural forest of pole size to 20" trunk diameter white pine, hemlock, red maple, white oak, red oak and birch. There is a thick understory of hemlock saplings, which provide privacy for the neighbors. The northern half of the park is pole size to 20" mixed hardwoods of red oak, white oak, red maple and birch with only a few scattered white pine and hemlock. This has a wide open "savannah" appearance because the ground cover of low bush blueberries, winter berries, partridge berries and sheep laurel has been mowed with a lawn mower. This also eliminates the tree seedlings that would have been the future forest. Each spring the state forest nursery has low cost fruiting shrubs that are beneficial to a wide variety of wildlife. Planting these in clumps would help restore a more natural environment. See their excellent catalogue at www.nhnursery.com. No trees were marked for removal in this larger park area because there was not a danger of them falling onto cars parked along the road. Yes, there are dead and uprooted trees present, but there is no public safety or silvicultural reason to remove them.

Mowing the park or having the fire department burn the ground cover will not be effective in controlling ticks. See our 16 page information on the biology and management of ticks in NH at

www.extension.unh.edu/resources/files/Resource000528_Rep1451.pdf.

Unfortunately, ticks are prevalent throughout the area. The best way to limit contact is by personal daily vigilance (checking your body each evening) and creating cleared walking paths through the woods. These should be 4' wide (or up to 10' wide if maintained by vehicles) and smooth surfaced with stone dust or gravel. Individuals on their own properties can hire professional application of insecticides (remember that this may be restricted within the SWQPA), but even this will not offer 100% control and personal vigilance will still be expected.



Jonathan W. Nute
County Extension Forester
& ISA Certified Arborist

Cc: Wendy Scribner

**STATES LANDING PARK
TOWN OF MOULTONBOROUGH, NH
TREES MARKED FOR REMOVAL OR PRUNING OF DEAD LIMBS**

J.W. Nute, County Extension Forester & ISA Certified Arborist

April 11, 2013

Trees suggested for pruning of dead limbs were marked with blue flagging. Trees suggested for removal were marked with orange flagging. None of the trees need immediate removal, but instead can be scheduled for treatment any time convenient within one year.

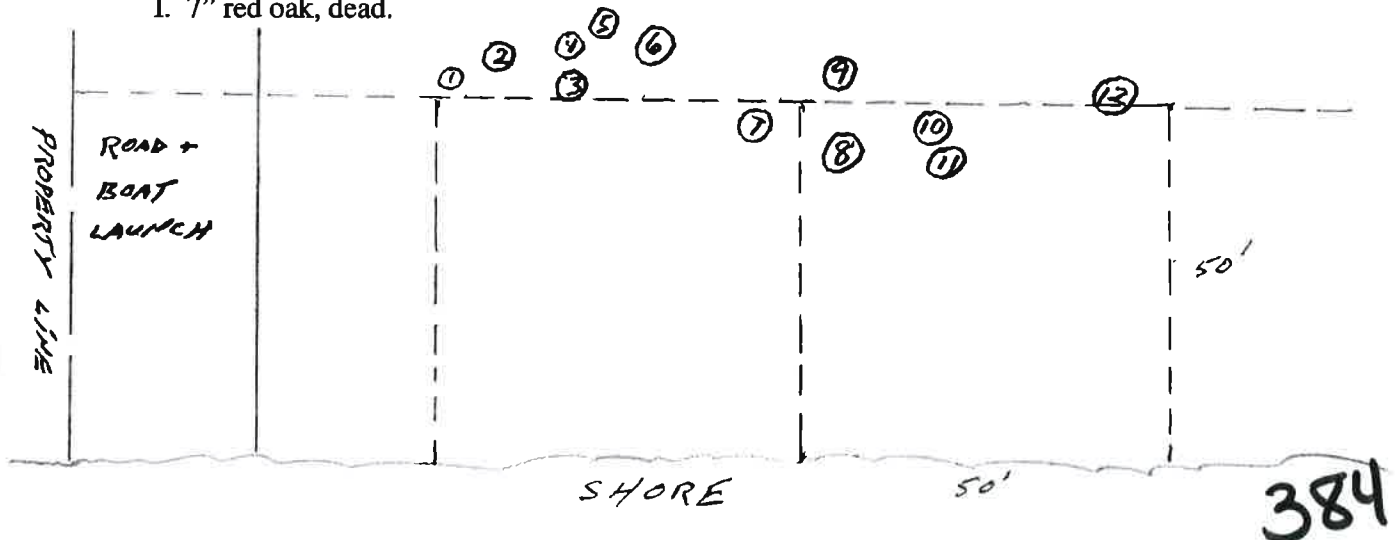
TREES WITHIN OR NEAR 50' OF THE SHORE: (see map below)

1. Prune 16" trunk diameter red maple.
2. Remove 16" red oak, top dead, extensive limb dieback, health in decline.
3. Prune 8" red maple.
4. Remove 17" red oak, dead top for 1/2 of tree.
5. Prune 6" red maple.
6. Prune 17" red oak.
7. Prune 15" red oak.
8. Remove 17" red oak, extensive interior decay, broken top, in decline.
9. Prune 10" red oak.
10. Remove 22" hemlock, extensive interior decay, broken top, less than 1/2 foliage.
11. Prune 11" red maple.
12. Remove 15" hemlock, large trunk wound, excessive top die back, less than 1/3 foliage.

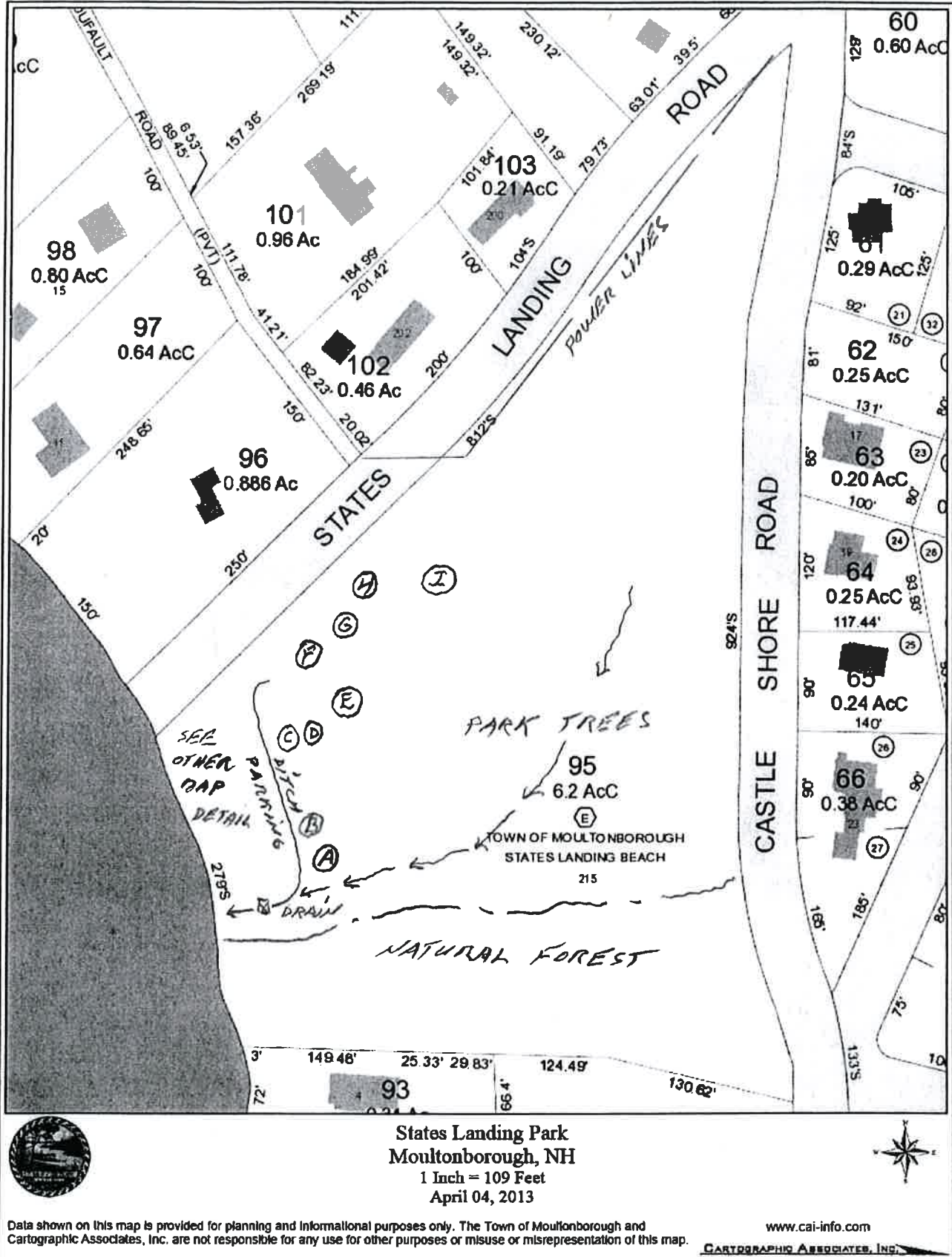
TREES ALONG PARKING AREA & STATES LANDING ROAD (see map attached)

All to be removed:

- A. 8" & 8" double red oaks with poor form, suppressed growth.
- B. 25" white pine, lightning strike length of tree, exposed roots at ditch.
- C. 13" white oak with excessive lean over parking, poor base attachment.
- D. 13" white oak with dead top and poor base attachment.
- E. 14" white birch with dead top and excessive lean toward parking.
- F. 35" white pine, dead, extensive root injury because of parking.
- G. 21" red oak, base decay, excessive lean, double top with split at fork.
- H. 11" red oak, long wound and decay with dead top.
- I. 7" red oak, dead.



TREES FOR REMOVAL ARE MARKED WITH ORANGE FLAGGING





NOTES ON CUTTING TREES WITHIN THE SHORELAND PROTECTION AREA

Cutting trees within 250' of a 4th order river or a larger than 10 acre public water body is regulated by the Shoreland Water Quality Protection Act (RSA 483-B). The SWQPA was revised in 2012. See WWW.des.nh.gov/organization/divisions/water/wetlands/cspa/index.htm.

Traditional forest management and agriculture are exempt from the changes, but the 50% basal area rule within 150' of the shore still applies (RSA 227-J:9).

For landscaping and development within the 50' waterfront buffer of the shore, a new "point" system takes effect whereby trees and shrubs are assigned "points" according to their size and these points are accumulated for each 50'x50' grid of land area, with a total of 50 points expected for each grid.

Trees greater than 24" diameter at 4.5' above the ground receive 25 points.

Trees 12" to 24" diameter at 4.5' above the ground receive 15 points.

Trees 6" to 12" diameter at 4.5' from the ground receive 10 points.

Trees 3" to 6" diameter at 4.5' from the ground receive 5 points.

Saplings 1" to 3" diameter at 4.5' from the ground receive 1 point.

Dead, diseased or unsafe trees or saplings are not included in the scoring. However, before these trees can be removed, the landowner must photograph them and then obtain written certification from a forester or arborist as to the tree's condition.

Before cutting trees or saplings allowed above the 50 points, the landowner should photograph the trees/saplings and prepare a sketch of the remaining trees/saplings and point calculations so this can be used by the owner if enforcement action is taken against them.

A "natural woodland buffer" shall be maintained within 100' inland from the back of the 50' "waterfront buffer" with at least 25% of the area maintained in an undisturbed state. Dead, diseased or unsafe trees that pose a hazard to structures or personal injury may be removed.

Specific information may be found on the NH Dept. of Environmental Services website mentioned above.

Be aware that tree cutting is prohibited within 100' of Prime Wetlands (RSA 482-A:15 and Wt 700) and that towns may also have specific shoreland or wetland protection zones. Inquire at the town offices for these additional restrictions.

Written July, 2008 by J.W. Nute, UNH Coop. Extension Forester in Hillsborough County
329 Mast Road
Goffstown, NH 03045
Tel. 603-641-6060

Revised 2012

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RSA 483-B

Shoreland Water Quality Protection Act (SWQPA)

A Summary of the Standards

A **STATE SHORELAND PERMIT** is required for most new construction, excavation and filling activities within the Protected Shoreland. (See definitions below) Forest management not associated with shoreland development or land conversion and conducted in compliance with RSA 227-J:9 and agricultural activities and operations defined in RSA 21:34-a and governed by RSA 430 are exempt from the provisions of the SWQPA. Projects that receive a permit under RSA 482-A, e.g., beaches and retaining walls do not require a shoreland permit. A complete list of activities that **do not** require a shoreland permit can be found on the [Shoreland Program Page](#) by visiting www.des.nh.gov.

250 feet from Reference Line — THE PROTECTED SHORELAND:

Impervious Surface Area Limitation. If a homeowner or developer wishes to exceed 30% impervious surface coverage of the area of the lot within the protected shoreland, a stormwater management system designed and certified by a professional engineer that will not concentrate stormwater runoff or contribute to erosion must be implemented and if any grid segment within the waterfront buffer does not meet the minimum required 50 point tree, sapling, shrub and groundcover score, each deficient grid segment must be planted with additional vegetation to at least achieve the minimum required score. If a homeowner or developer wishes to exceed 20% impervious area, a [stormwater management plan](#) must be implemented to infiltrate increased stormwater from development.

Other Restrictions/ Notes:

- No establishment/expansion of salt storage yards, auto junk yards, solid waste and hazardous waste facilities.
- Setback requirements for all new septic systems are determined by soil characteristics.
 - 75 feet for rivers and areas where there is no restrictive layer within 18 inches and where the soil down gradient is not porous sand and gravel (perc > 2 min.).
 - 100 feet for soils with a restrictive layer within 18 inches of the natural soil surface.
 - 125 feet where the soil down gradient of the leachfield is porous sand and gravel (perc rate equal to or faster than 2 min/in.).
- In accordance with RSA 485-A, when selling developed waterfront property, a *Site Assessment Study* is required for all properties with on-site septic that are contiguous to or within 200 feet of waterbodies jurisdiction under the SWQPA. For more information relative to site assessments, contact the NH [Subsurface Systems Bureau](#) at (603) 271-3711.
- In accordance with RSA 485-A:17, an Alteration of Terrain Permit is required for any project that proposes to disturb more than 50,000 sq ft of contiguous terrain if any portion of the project is within the protected shoreland or disturbs an area having a grade of 25% or greater within 50 feet of any surface water.

150 feet from Reference Line — NATURAL WOODLAND BUFFER LIMITATIONS:

- At least 25 percent of the area between 50 feet and 150 feet from the reference line must be maintained in an unaltered state.

50 feet from Reference Line — WATERFRONT BUFFER and PRIMARY BUILDING SETBACK:

- All primary structures must be set back at least 50 feet from the reference line. Towns may maintain or enact greater setbacks.
- Within 50 feet from the reference line, a waterfront buffer must be maintained. Within the waterfront buffer, tree coverage is managed with a 50 x 50 foot grid and point system. Trees and saplings may be removed provided the sum score of the remaining trees, saplings, shrubs and groundcover within the affected grid segment is at least 50 points. (see [Vegetation Maintenance within the Protected Shoreland FACT SHEET](#))
- No natural ground cover shall be removed except for a footpath to the water that does not exceed 6 feet in width and does not concentrate stormwater or contribute to erosion.
- Natural ground cover must remain intact. No cutting or removal of vegetation below 3 feet in height (excluding previously existing lawns and landscaped areas). Stumps, roots, and rocks must remain intact in and on the ground unless specifically approved by the department.
- Pesticide and herbicide applications can be applied by a licensed applicator only.
- Only low phosphorus, slow release nitrogen fertilizer can be used beyond 25 feet of the reference line. Only limestone may be used within 25 feet of the reference line.

"REFERENCE LINE"- The reference line is the point from which setbacks are determined. For *coastal waters* it is the highest observable tide line; for *rivers* it is the ordinary high water mark and for *lakes and ponds* it is the surface elevation listed on the [Consolidated List of Waterbodies subject to the SWQPA](#).

"CONSTRUCTION"- Erecting, reconstructing or altering any structure(s) that result in an increase in impervious area.

"EXCAVATION" - To dig, remove, or form a cavity or hole within the ground with mechanized equipment.

"FILL" - To place or deposit materials such as rocks, soil, gravel, sand or other such materials.

"UNALTERED STATE" - vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for plant health, normal maintenance and renewal.

Graphic showing the Protected Shoreland with setbacks and areas of restricted use.

The Protected Shoreland

350' from Reference Line

20' Accessory Structure Setback

150' Woodland Buffer

150 feet

Natural Woodland Buffer

Reference Line

50' Primary Building Setback

250 150 100 50



November 1, 2012

Bruce Woodruff
 Town of Moultonborough
 6 Holland St.
 PO Box 139
 Moultonborough, NH 03254
bwoodruff@moultonboroughnh.gov

Dear Mr. Woodruff:

Thank you for meeting New Hampshire Lakes Association (NH LAKES) staff on Wednesday, October 3, 2012, to look at the stormwater runoff issues at the State's Landing boat ramp. The purpose of this letter is to summarize observations made during the site visit and provide you with some concepts for improvements that could be made on the property to reduce the amount stormwater runoff that flows off the site and into Lake Winnepesaukee.

Site Evaluation Observations:

During the October 3, 2012, site visit, it had been raining heavily earlier in the day. There was evidence that runoff water had been flowing along and across the length of the asphalt/sand boat ramp and into Lake Winnepesaukee. Extensive rill and gully erosion of sand and soil along the length of the boat launch roadway and a significant build up of sediment carried from upgradient was observed. The launch was sediment-laden and a delta of sediment was visible in the nearshore area of the lake located immediately downgradient of the boat ramp.

Existing Conditions Photos with Recommendations:

Lake Winnepesaukee, Moultonborough, NH
 Pictures taken: 10/03/2012



Remove asphalt apron along ramp. On both sides of ramp, install a series of stone check-dams and pocket rain gardens planted with native vegetation.



Install an open top culvert across top of access road that will convey flow into naturally vegetated areas.



Improve boat launch into lake by upgrading to a concrete ramp with drywells located on either side to collect runoff and allow for infiltration.

Solutions:

There are a number of stormwater runoff best management practices that could be installed on the landscape in the vicinity of the boat launch to reduce the amount of stormwater runoff that flows into Lake Winnepesaukee during rain events.

- **Remove the asphalt apron** along the both sides of the boat ramp access road and retrofit this area with a series of stone check dams and pocket rain gardens planted with native vegetation. This will allow runoff water from the roadway to be slowed down, in an effort to drop out sediment and also infiltrate into the ground.
- **Install an open top culvert across access road** to allow runoff water and sediment to divert away from the lake and into the surrounding vegetated areas for infiltration.
- **Improve the ramp surface** by installing a concrete launch/ramp that would reduce the amount of erosion occurring as boats enter and leave the launch site.

These improvements, because they would occur within the 250-foot Protected Shoreland Zone and may involve heavy machinery, excavation, fill, and possible temporary disturbance to resource areas, would likely trigger New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau and/or Shoreland Permits. However, it is possible that these activities could fall under a Permit by Notification process since they would be directly related to stormwater management improvement and erosion control projects and environmental restoration, and are involve repairs and improvements of public roads and public access facilities. For more information, please visit <http://des.nh.gov/organization/divisions/water/wetlands/cspa/permit-by-notification.htm>.

Options:

Below are some options on how to proceed with the recommendations that have been presented.

1. Hire NH LAKES to provide a conceptual plan and project oversight that will be evaluated, modified, and finalized by a town engineer. This work would be billed out to the Town at an hourly rate of \$25 for members of NH LAKES and \$30 for non-members with an additional mileage rate of \$0.555 (the federally mandated rate) for all miles accrued by NH LAKES staff driving to and from NH LAKES' headquarters to the project site. The Town could then implement the plan, once any necessary state approvals/permits are received.
2. NH LAKES and the Town DPW staff could work with high school or career training students to create a concept that can be passed to town Engineers for modification and finalization. The Town, once any necessary state approvals/permits are received, could work with students on installing the proejct.
3. The Town could work with NH LAKES to implement a watershed-wide Lake Conservation Corps Program to address this site and the other sites that drain into Lake Winnepesaukee and other waterbodies located within Moultonborough. This type of program would be contingent upon funding made available by town/association and or other funding sources (grants, etc.).

Again, prior to the commencement of any work, please consult the NHDES Shoreland Program at (603) 271-2147 or shoreland@des.nh.gov to inquire if the Town would be authorized to address the runoff problems at the State's Landing launch through a permit by notification process.

If you have any questions please feel free to contact me via phone (603-226-0299) or email (rparsons@nhlakes.org). Thank you for your interest in protecting and improving the health of Lake Winnepesaukee!

Sincerely,

Robie Parsons
Program Coordinator

Appendix D

From: Ray Korber [<mailto:rkorber@kvpllc.com>]
Sent: Tuesday, October 01, 2013 5:28 PM
To: 'Carter Terenzini'
Subject: States Landing Boat Trailer Parking Lot-Draft Estimate

Carter –

We did a windshield last week to scope out alignments and layout and take a first pass at the cost estimate. We walked it yesterday to refine the estimate. Attached is a ball park estimate on 2 alternatives (w/ and w/o pavement). Here are the key assumptions/rationale:

- The location is as per the site plan provided.
- The data provided indicates a peak normal of 22 – 25 trailers. The data indicates peaks around the July 4 holiday in the 40's. We settled on accommodating ~ 30 spaces. The layout shows 29.
- The site lends itself to one way traffic for ease of entry egress for vehicles with trailers. We believe a simple configuration works best on the site and makes it easier for users.
- The lot is against property boundaries so as to minimize impact to available property. We also wanted to stay away from the wet areas as shown on the aerial.
- The area to the left of the lot is unusable due to property boundaries alignments, but lends itself well for the access drive (entry).
- The site sits well below the roadway so it's a fill condition. A topo survey is required to define finished grade elevations relative to States Landing Rd and to determine site cost. We used best judgment for estimating excavation/embankment requirements. Note that this is a major item of construction.
- A couple of landscape features is recommended to add interest, breakup the monotony of a flat open lot, better control parking and enhance traffic flow through the lot.
- Refer to layout plan for dimensions of key features.
- The cost estimate should be considered conceptual and used for planning purposes only.

The estimate and layout are draft pending your review. Please call with any questions or comments.

Thanks,

Ray



PLAN VIEW
SCALE: 1" = 50'

[illegible]

KVP Partners
CONSULTING ENGINEERS

PO BOX 7721
GILFORD, NH 03247
TEL: (603) 513-1809

PO BOX 432
NEW BOSTON, NH 03070
TEL: (603) 413-4550

www.kvpinc.com

DATE:	09-29-13
SCALE:	1" = 50'
DESIGNED BY:	RHK
DRAWN BY:	NMT
CHECKED BY:	RHK
APPROVED BY:	RHK

STATES LANDING BEACH MOULTONBOROUGH, NEW HAMPSHIRE
TRAILER PARKING LOT LAYOUT

KVPartners

CLIENT: MOULTONBOROUGH NH
PROJECT: STATES LANDING: BOAT TRAILER PARKING LOT
DETAIL: ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPTUAL

BY: RHK
DATE: 9/30/13

DRAFT

Trailer Parking Lot-Paved:

ITEM				ENGINEER'S ESTIMATE	
No.	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	COST
1	Mobilization	1	LS	\$9,000.00	\$9,000
2	Clearing & Grubbing	1	LS	\$8,000.00	\$8,000
3	Excavation & Embankment (Cuts/Fills)	1	LS	\$80,000.00	\$80,000
4	Gravel	1,400	CY	\$22.00	\$30,800
5	Crushed Gravel	700	CY	\$26.00	\$18,200
6	3/4" Crushed Stone	200	CY	\$32.00	\$6,400
7	2.5" HBP Binder Course	620	TN	\$85.00	\$52,700
8	1.5" HBP Wearing Course	370	TN	\$85.00	\$31,450
9	HBP Hand Method	20	TN	\$130.00	\$2,600
10	Reflective Paint Pavement Marking - 4" Yellow Center Line	1,280	LF	\$0.40	\$512
11	Landscaping	1	LS	\$10,000.00	\$10,000
12	100 lbs Calcium Chloride	20	EA	\$50.00	\$1,000
13	Hay Bales	100	EA	\$9.00	\$900
14	Silt Fence	600	LF	\$4.00	\$2,400
15	Maintenance of Traffic	1	LS	\$2,000.00	\$2,000

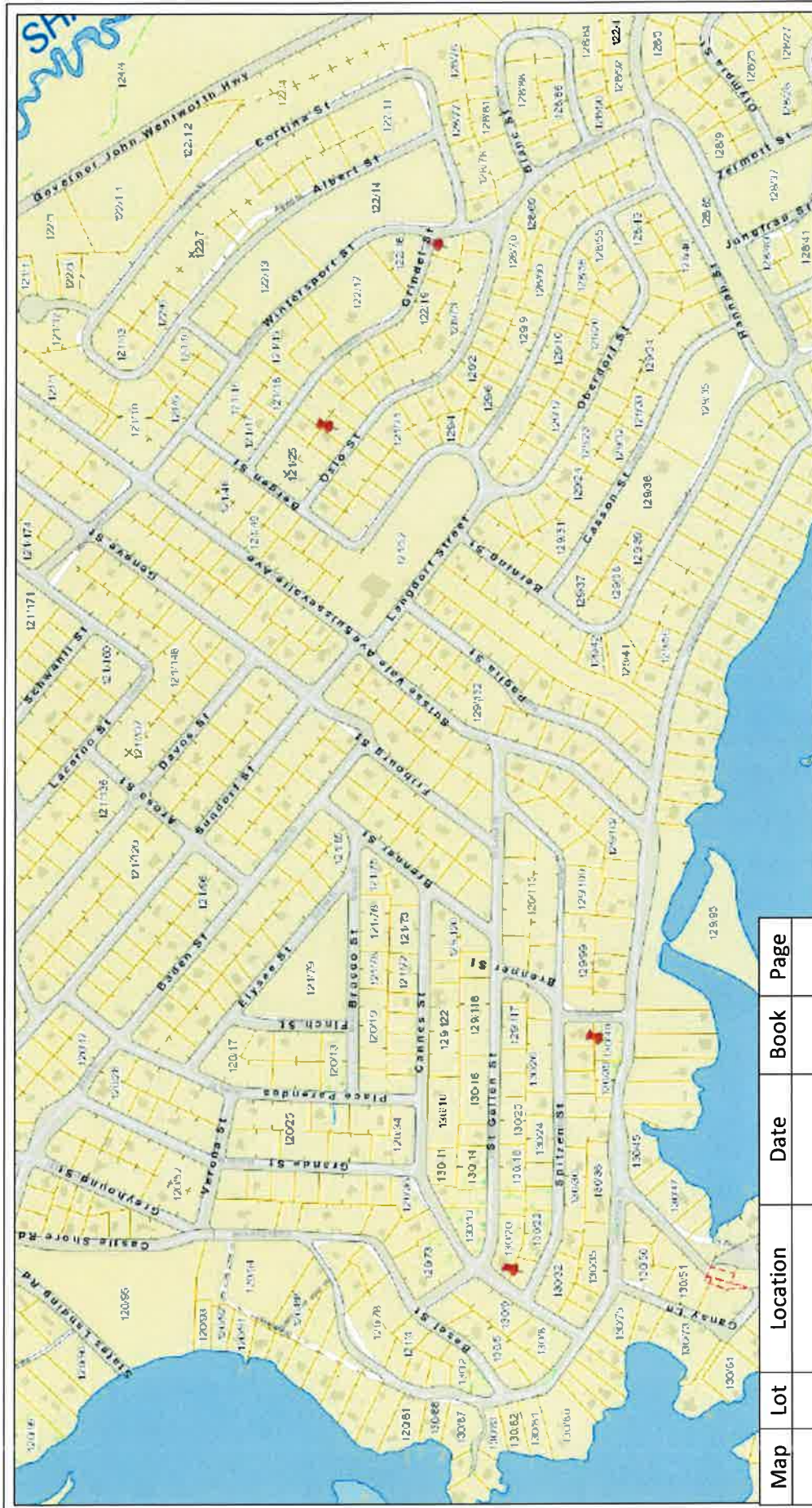
Construction: \$255,962
Engineering: \$40,000
Field Investigations (Survey/Borings): \$10,000
Contingency (~15%): \$46,000
Recommended Budget: \$350,000

Trailer Parking Lot-Gravel:

ITEM				ENGINEER'S ESTIMATE	
No.	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	COST
1	Mobilization	1	LS	\$9,000.00	\$9,000
2	Clearing & Grubbing	1	LS	\$8,000.00	\$8,000
3	Excavation & Embankment (Cuts/Fills)	1	LS	\$80,000.00	\$80,000
4	Gravel	1,400	CY	\$22.00	\$30,800
5	Crushed Gravel	700	CY	\$26.00	\$18,200
6	3/4" Crushed Stone	200	CY	\$32.00	\$6,400
7	Landscaping	1	LS	\$10,000.00	\$10,000
8	100 lbs Calcium Chloride	20	EA	\$50.00	\$1,000
9	Hay Bales	100	EA	\$9.00	\$900
10	Silt Fence	600	LF	\$4.00	\$2,400
11	Maintenance of Traffic	1	LS	\$2,000.00	\$2,000

Construction: \$168,700
Engineering: \$40,000
Field Investigations (Survey/Borings): \$10,000
Contingency (~15%): \$33,000
Recommended Budget: \$250,000

394



Town Lands w/in Suissevale
Moultonborough, NH
1 inch = 400 Feet
May 28, 2013

Map	Lot	Location	Date	Book	Page
121	027	Oslo Street	11/24/2009	2829	0140
128	075	Grindel Street	12/5/2011	2965	0074
130	040	Castle Shore Rd	12/5/2011	2965	0076
130	21	Spitzen Rd	12/4/2012	3043	306

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Office of Selectmen
Town of Moultonborough
6 Holland Street - PO Box 139
Moultonborough, NH 03254
(603) 476-2347 * Fax (603) 476-5835

June 3, 2013

Mr. Robert Boyan
Property Owners Association at Suissevale
PO Box 113
Moultonborough, NH 03254

Re: Request to Enter Upon Lands

Dear Bob:

As you may know, the Town has recently engaged the residents in the area of States Landing in a conversation about the future of that facility. As part of that conversation it was suggested that we approach Suissevale about the possibility that one or more parcels of land that the association owns on States Landing might be used for boat/trailer parking (see yellow on meeting notes enclosed).

At this point we do not have any idea if site conditions would make this idea feasible at all. Toward that end we would seek your permission to enter onto the lands show on the enclosed map and identified as Map 98 Lot(s) 59 and 60 and Map 98 Lot(s) 70, 71, and 72. Should these prove to be of interest we would then contact you to discuss the matter in greater detail. We fully understand that any permission you might grant for us to enter onto the lands is not to be considered an indication of your willingness to proceed beyond satisfying our curiosity.

I look forward to hearing from you at your first convenience and trust that you will feel free to call upon me if I may answer any questions as you consider this matter.

Sincerely yours,

Carter Terenzini
Town Administrator

CC: BoS; Town Counsel



States Landing Properties Owned by Suissevale and Town
Moultonborough, NH

1 Inch = 450 Feet
May 23, 2013



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MEMORANDUM

To: C. Terenzini, Moultonborough
From: R. Korber, KVPartners
Date: 10/21/13
Re: Castle Shores Road Realignment

As requested, attached are two concepts for the realignment of Castle Shores Road at. We understand the Town may wish to realign Castle Shores Road to reduce the speed of vehicles as they transition from States Landing Road to Castle Shores Road. The alignments are described as follows:

Concept 1: Includes terminating the intersection between Castle Shores Road and States Landing Road, extending Baden Street to States Landing Road as a tee intersection and creating a tee intersection between Baden Street and Castle Shores Road. This option will likely involve a stop condition at Castle Shores Road. Based on visual observations, this option is likely the easier alternative to implement given existing roadway alignments. Refer to Figure 1 for a general layout.

Concept 2: Includes terminating the intersection between Castle Shores Road and States Landing Road, extending Castle Shores Road to a tee intersection at States Landing Road and creating a tee intersection between Baden Street and Castle Shores Road. This option will require a realignment of Baden Street as well as Castle Shores Road. A stop condition is expected at Baden Street. Refer to Figure 2 for a general layout.

Attached is an opinion of probable project cost for Concept 1 and 2. The cost estimate is an order of magnitude estimate based on the level of effort completed to date (field reconnaissance) and should be used for planning purposes only. A more definitive cost estimate can be developed with the completion of a field survey and additional evaluations.



SCALE: NTS

CASTLE SHORES ROAD REALIGNMENT MOULTONBOROUGH, NEW HAMPSHIRE

KVP *Partners*

KVPartners

CLIENT: MOULTONBOROUGH NH
PROJECT: CASTLES SHORES ROAD REALIGNMENT
DETAIL: ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS
CONCEPTUAL

BY: RHK
DATE: 10/18/13

CONCEPT 1: BADEN STREET EXTENSION

ITEM				ENGINEER'S ESTIMATE	
No.	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	COST
1	Mobilization	1	LS	\$2,000.00	\$2,000
2	Clearing & Grubbing	1	LS	\$2,000.00	\$2,000
3	Excavation & Embankment (Cuts/Fills)	1	LS	\$12,000.00	\$12,000
4	12" HDPE Drain Pipe	40	LF	\$45.00	\$1,800
5	12" End Section	1	EA	\$250.00	\$250
6	Catch Basin	1	EA	\$2,600.00	\$2,600
7	Gravel	60	CY	\$22.00	\$1,320
8	Crushed Gravel (Roadway)	30	CY	\$27.00	\$810
9	Crushed Gravel (Shoulders)	10	CY	\$30.00	\$300
10	2" HBP Binder Course	55	TN	\$85.00	\$4,675
11	1" HBP Wearing Course	30	TN	\$85.00	\$2,550
12	HBP Hand Method	10	TN	\$130.00	\$1,300
13	Utility Pole Relocation	2	EA	\$2,500.00	\$5,000
14	Tree Removal	7	EA	\$900.00	\$6,300
15	100 lbs Calcium Chloride	20	EA	\$50.00	\$1,000
16	Hay Bales	30	EA	\$9.00	\$270
17	Silt Fence	200	LF	\$4.00	\$800
18	Maintenance of Traffic	1	LS	\$3,000.00	\$3,000

Construction: \$47,975
Engineering: \$18,000
Field Investigations (Survey/Borings): \$5,000
Contingency (~15%): \$11,000
Recommended Budget: \$82,000

CONCEPT 2: CASTLE SHORES ROAD EXTENSION

ITEM				ENGINEER'S ESTIMATE	
No.	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	COST
1	Mobilization	1	LS	\$3,000.00	\$3,000
2	Clearing & Grubbing	1	LS	\$3,000.00	\$3,000
3	Excavation & Embankment (Cuts/Fills)	1	LS	\$15,000.00	\$15,000
4	12" HDPE Drain Pipe	40	LF	\$45.00	\$1,800
5	12" End Section	1	EA	\$250.00	\$250
6	Catch Basin	1	EA	\$2,600.00	\$2,600
7	Gravel	145	CY	\$22.00	\$3,190
8	Crushed Gravel (Roadway)	95	CY	\$27.00	\$2,565
9	Crushed Gravel (Shoulders)	10	CY	\$30.00	\$300
10	2" HBP Binder Course	65	TN	\$85.00	\$5,525
11	1" HBP Wearing Course	35	TN	\$85.00	\$2,975
12	HBP Hand Method	10	TN	\$130.00	\$1,300
13	Utility Pole Relocation	2	EA	\$2,500.00	\$5,000
14	Tree Removal	8	EA	\$900.00	\$7,200
15	100 lbs Calcium Chloride	20	EA	\$50.00	\$1,000
16	Hay Bales	30	EA	\$9.00	\$270
17	Silt Fence	200	LF	\$4.00	\$800
18	Maintenance of Traffic	1	LS	\$4,000.00	\$4,000

Construction: \$59,775
Engineering: \$21,000
Field Investigations (Survey/Borings): \$6,000
Contingency (~15%): \$13,000
Recommended Budget: \$100,000

From: Ray Korber [<mailto:rkorber@kvpllc.com>]
Sent: Thursday, October 24, 2013 6:19 PM
To: 'Carter Terenzini'
Subject: States Landing Beach-Dredging

Hi Carter – The following is a summary on your request for a cost estimate to dredge the States Landing Beach:

We contacted two marine construction firms and developed a scope of work and estimates to dredge the States Landing Beach. Note that we made assumptions regarding the area to be dredged (see attached figure) and the depth (4') of material to be removed. We have not completed any field investigations (soundings, probes, etc.) to determine the limits of work. If you need a better estimate than existing information (aerial photos, on-shore visual inspection) allows, we recommend doing a hydrographic survey. If we assume a smaller impact area, the construction cost will be less. We also contacted DES and they have confirmed that this operation will require a Major Impact Permit. We expressed to them that we see this as maintenance dredging to regain the recreational use of the beach.

Note that we obtained independent estimates as a way to validate the scope of work and cost. As indicated below, the two firms came in at the same order of magnitude. In summary the estimate includes:

- Construction: mechanical dredging, dewatering and removal and disposal of dredge spoils. The setup will include: excavator, barges (2), loader, dump trucks, dewatering basin, laborers, operators. The estimated timeframe to complete the operation as per the limit of work shown on the attached figure is 80 days.
- Engineering/Permitting: preparation of bid documents, bid phase services, permitting and construction administration.
- DES Permit application fee.

Item	Firm 1	Firm 2
Construction	270,000 – 310,000	\$300,000
Engineering/Permitting (~15%)	\$40,000 - \$47,000	\$45,000
Permit Fee (Est.)	\$6,000	\$6,000
Total:	\$316,000 - \$363,000	\$351,000

Note that this opinion of probable cost is an order of magnitude estimate based on the level of effort completed to date and should be used for planning purposes only.

Please let me know if you have any questions or require additional information.

Thanks,

-Ray

Ray Korber, P.E., Principal Engineer

KVP Partners
 CONSULTING ENGINEERS



Moultonborough, NH
1 Inch = 100 Feet
October 22, 2013



www.cai-tech.com



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Appendix G

From: Carter Terenzini [<mailto:cterenzini@moultonboroughnh.gov>]
Sent: Thursday, November 07, 2013 10:02 AM
To: 'Ray Korber'
Subject: States Landing

How fast can you push out an estimate for the boat launch? I know the dredging is a wildcard but assume for the moment that does not happen at the same time.

Many Thanks

Carter

From: Ray Korber [<mailto:rkorber@kvpllc.com>]
Sent: Thursday, November 07, 2013 10:18 AM
To: 'Carter Terenzini'
Subject: RE: States Landing

Carter –

Attached is the bid tab for Lees Mills. If you throw out the high and low, the marketplace in 2009 valued that work at ~\$120k. Today's dollars would put Lees Mills at ~\$130k (2% annual CPI). Not knowing any particulars of what is required at States Landing I would add a minimum 15% to that number for contingency. That ballparks the construction cost at \$150k. If you need a higher level of detail than that, let me know.

Ray

CLIENT: MOULTONBOROUGH NH
PROJECT: LEES MILLS BOAT RAMP REPLACEMENT PROJECT
DETAIL: BID TABULATION

DATE: 11/20/2009
BY: RHK
PAGE: 1 OF 1

No.	ITEM DESCRIPTION	QUANTITY	UNITS	ENGINEER'S ESTIMATE	NELSON	ME LATHUPE	PISCOPO	HILTZ CON	ORU
				UNIT PRICE	COST	UNIT PRICE	COST	UNIT PRICE	COST
202.92	REMOVAL OF EXISTING CONCRETE PLANKS	1	UNIT	\$5,000.00	\$5,000.00	\$2,000.00	\$2,000.00	\$11,700.00	\$11,700.00
304.3	CRUSHED GRAVEL	60	CY	\$25.00	\$1,500.00	\$22.00	\$1,320.00	\$20.00	\$1,200.00
503.201	COFFERDAM	1	UNIT	\$45,000.00	\$45,000.00	\$40,000.00	\$40,000.00	\$41,445.00	\$41,445.00
504.1	BRIDGE STRUCTURE EXCAVATION	100	CY	\$25.00	\$2,500.00	\$20.00	\$2,000.00	\$20.00	\$2,000.00
508	STRUCTURAL FILL	5	CY	\$40.00	\$200.00	\$40.00	\$200.00	\$50.00	\$250.00
520.0102	CLASS AA CONCRETE (F)	8	CY	\$600.00	\$4,800.00	\$400.00	\$3,200.00	\$18.75	\$150.00
528.81	PRESSTRESSED CONCRETE PLANKS (Out of Water)	24	CY	\$225.00	\$5,400.00	\$200.00	\$4,800.00	\$425.00	\$10,200.00
528.92	REINFORCED CONCRETE PLANKS (In Water)	68	SY	\$250.00	\$17,000.00	\$240.00	\$16,320.00	\$227.00	\$15,456.00
544.31	REINFORCING STEEL (EPOXY COATED (CONTRACTOR DETAILED))	600	LB	\$2.00	\$1,200.00	\$1.25	\$750.00	\$1.80	\$1,080.00
550	STRUCTURAL STEEL (4" X 4" X 1/2" I-BEAM and 4" X 1/2" STEEL PLATES)	1400	LB	\$3.00	\$4,200.00	\$2.00	\$2,800.00	\$3.05	\$4,270.00
558	STRUCTURAL TIMBER (6" X 8" X 8' PT POST)	1	UNIT	\$100.00	\$100.00	\$80.00	\$80.00	\$345.00	\$345.00
565.3	STONE FILL CLASS C	80	CY	\$25.00	\$2,000.00	\$20.00	\$1,600.00	\$35.00	\$2,800.00
565.4	STONE FILL CLASS D	20	CY	\$25.00	\$500.00	\$20.00	\$400.00	\$35.00	\$700.00
565.9	STONE FILL CLASS - SPECIAL (RIVER ROCK 2" - 3")	10	CY	\$40.00	\$400.00	\$30.00	\$300.00	\$50.00	\$500.00
593.421	GEOTEXTILE PERMANENT EROSION CONTROL CLASS 2 NON-WOVEN	135	SY	\$2.00	\$270.00	\$3.00	\$405.00	\$1.75	\$236.25
645.7	STORMWATER POLLUTION PREVENTION PLAN	1	UNIT	\$3,500.00	\$3,500.00	\$2,500.00	\$2,500.00	\$800.00	\$800.00
645.71	MONITORING SWPPP & EROSION CONTROL MEASURES	1	UNIT	\$75.00	\$75.00	\$125.00	\$125.00	\$75.00	\$75.00
645.9	EROSION CONTROL	1	UNIT	\$5,000.00	\$5,000.00	\$8,000.00	\$8,000.00	\$7,565.00	\$7,565.00
1008.1	ALTERATIONS AND ADDITIONS, AS NEEDED	1	AL	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
TOTAL BASE BID:				\$108,320.00	\$107,326.00	\$108,025.00	\$109,660.00	\$115,050.25	\$119,025.00

No.	ITEM DESCRIPTION	QUANTITY	UNITS	WMAN & SIMPSON	GW BROOKS	NORTH HAMPTON	NE EARTH	RM PIPER	ENGINEER'S ESTIMATE	NELSON	ME LATHUPE	PISCOPO	HILTZ CON	ORU
				UNIT PRICE	COST	UNIT PRICE	COST	UNIT PRICE	COST	UNIT PRICE	COST	UNIT PRICE	COST	UNIT PRICE
202.92	REMOVAL OF EXISTING CONCRETE PLANKS	1	UNIT	\$5,000.00	\$5,000.00	\$2,934.82	\$2,934.82	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$2,024.00	\$2,024.00	\$11,700.00
304.3	CRUSHED GRAVEL	60	CY	\$24.00	\$1,440.00	\$20.00	\$1,200.00	\$20.00	\$1,200.00	\$27.00	\$1,620.00	\$41.00	\$2,460.00	\$20.00
503.201	COFFERDAM	1	UNIT	\$4,500.00	\$4,500.00	\$64,965.25	\$64,965.25	\$41,275.00	\$41,275.00	\$42,000.00	\$42,000.00	\$46,390.00	\$46,390.00	\$41,445.00
504.1	BRIDGE STRUCTURE EXCAVATION	100	CY	\$12.00	\$1,200.00	\$12.57	\$1,257.00	\$12.57	\$1,257.00	\$12.00	\$1,200.00	\$15.38	\$1,538.00	\$20.00
508	STRUCTURAL FILL	5	CY	\$50.00	\$250.00	\$25.30	\$126.50	\$25.30	\$126.50	\$22.00	\$110.00	\$27.40	\$137.00	\$50.00
520.0102	CLASS AA CONCRETE (F)	8	CY	\$450.00	\$3,600.00	\$367.37	\$2,938.96	\$367.37	\$2,938.96	\$410.00	\$3,280.00	\$372.40	\$2,979.20	\$425.00
528.81	PRESSTRESSED CONCRETE PLANKS (Out of Water)	24	SY	\$225.00	\$5,400.00	\$218.76	\$5,248.32	\$218.76	\$5,248.32	\$141.00	\$3,384.00	\$272.00	\$6,528.00	\$400.00
528.92	REINFORCED CONCRETE PLANKS (In Water)	68	SY	\$315.00	\$21,420.00	\$315.41	\$21,447.68	\$315.41	\$21,447.68	\$15,708.00	\$10,789.20	\$163.00	\$11,004.00	\$500.00
544.31	REINFORCING STEEL (EPOXY COATED (CONTRACTOR DETAILED))	600	LB	\$1.50	\$900.00	\$0.01	\$6.00	\$0.01	\$6.00	\$2.00	\$1,200.00	\$2.25	\$1,350.00	\$250.00
550	STRUCTURAL STEEL (4" X 4" X 1/2" I-BEAM and 4" X 1/2" STEEL PLATES)	1400	LB	\$3.00	\$4,200.00	\$4.96	\$6,944.00	\$4.96	\$6,944.00	\$3.13	\$4,362.00	\$3.13	\$4,362.00	\$300.00
558	STRUCTURAL TIMBER (6" X 8" X 8' PT POST)	1	UNIT	\$500.00	\$500.00	\$363.20	\$363.20	\$363.20	\$363.20	\$125.00	\$125.00	\$276.00	\$276.00	\$500.00
565.3	STONE FILL CLASS C	80	CY	\$35.00	\$2,800.00	\$27.00	\$2,160.00	\$27.00	\$2,160.00	\$20.00	\$1,600.00	\$44.70	\$3,576.00	\$350.00
565.4	STONE FILL CLASS D	20	CY	\$35.00	\$700.00	\$27.00	\$540.00	\$27.00	\$540.00	\$20.00	\$400.00	\$44.70	\$894.00	\$400.00
565.9	STONE FILL CLASS - SPECIAL (RIVER ROCK 2" - 3")	10	CY	\$40.00	\$400.00	\$34.52	\$345.20	\$34.52	\$345.20	\$30.00	\$300.00	\$35.10	\$351.00	\$50.00
593.421	GEOTEXTILE PERMANENT EROSION CONTROL CLASS 2 NON-WOVEN	135	SY	\$3.00	\$405.00	\$3.50	\$472.50	\$3.50	\$472.50	\$2.50	\$337.50	\$1.40	\$189.00	\$810.00
645.7	STORMWATER POLLUTION PREVENTION PLAN	1	UNIT	\$3,500.00	\$3,500.00	\$1,402.50	\$1,402.50	\$1,402.50	\$1,402.50	\$2,800.00	\$2,800.00	\$2,800.00	\$2,800.00	\$4,000.00
645.71	MONITORING SWPPP & EROSION CONTROL MEASURES	1	UNIT	\$75.00	\$75.00	\$125.72	\$125.72	\$125.72	\$125.72	\$232.60	\$232.60	\$232.60	\$232.60	\$70.00
645.9	EROSION CONTROL	1	UNIT	\$3,000.00	\$3,000.00	\$3,673.40	\$3,673.40	\$3,673.40	\$3,673.40	\$8,059.00	\$8,059.00	\$8,059.00	\$8,059.00	\$5,000.00
1008.1	ALTERATIONS AND ADDITIONS, AS NEEDED	1	AL	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
TOTAL BASE BID:				\$119,915.00	\$122,356.60	\$131,252.80	\$133,576.00	\$162.64.00						



Landscape Enhancement Proposal

Prepared for:

Scott D. Kinmond, Highway/Road Agent
Director of Public works
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P.O. Box 139
Moultonborough, NH 03254
603-253-7445- Office/fax
603-476-2400- Dispatch
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skinmond@moultonboroughnh.gov

Property Location:

States Landing Park
Moultonborough, NH 03254

November 6, 2013

Mark Smith
Sales/Project Division Manager

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GROUND MANAGEMENT • LAWN CARE • IRRIGATION • ORGANIC PLANT CARE

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Your Goals

Belknap Landscape Company is pleased to present the following landscape enhancement proposal for the projects we discussed at States Landing Park. Our goal is to create a solution to meet your needs by removing 14 trees in poor health and pruning the dead limbs off of 7 trees at the States Landing Park in the Town of Moultonborough. This proposal also includes the Installation of 8 plants per UNH Cooperative Extension letter dated April 12, 2013 and the creation of an island of wood chip mulch 2" deep edged with landscape rocks around the trees (approximately +/-150' x 20' area).

Landscape Enhancement Solutions

Tree Work: Trees marked for removal or pruning of dead limbs per UNH cooperative extension letter dated April 12, 2013. Trees suggested for removal are marked with orange flagging and trees suggested for pruning of dead limbs are marked with blue flagging.

Within or near 50' of the shore:	
Prune	16" trunk diameter Red Maple
Prune	8" Red Maple
Prune	6" Red Maple
Prune	17" Red Oak
Prune	15" Red Oak
Prune	10" Red Oak
Prune	11" Red Maple
Remove	16" Red Oak, top dead, extensive limb dieback
Remove	17" Red Oak, dead top for 1/2 tree
Remove	17" Red Oak, extensive interior decay, broken top
Remove	22" Hemlock, extensive interior decay, broken top
Remove	15" Hemlock, large trunk wound, excessive top die back
Trees along parking area & states landing road:	
Remove	8" & 8" double Red Oaks with poor form
Remove	25" White Pine, lightning strike length of tree
Remove	13" White Oak with excessive lean over parking
Remove	13" White Oak with dead top & poor base
Remove	14" White Birch with dead top & lean toward parking
Remove	35" White pine, dead, root injury because of parking
Remove	21" Red Oak, base decay, lean
Remove	11" Red Oak, long wound & decay with dead top
Remove	7" Red Oak, dead

Tree Work Budget Total

\$4,750.00



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Softscapes: Installation of plant material per UNH Cooperative Extension letter dated April 12, 2013. Create an island of wood chip mulch 2" deep edged with landscape rocks around the trees (approximately +/-150' x 20' area).

Softscapes Budget Total **\$4,800.00**

Note: Rocks and wood chips will be provided and trucked by the town of Moultonborough. If Additional rock or wood chips are needed, BLC can haul it at an additional rate of \$70/hour. If the Town of Moultonborough's rock source is not available then BLC can also provide this as well at a cost of \$75/ton.

Description	Qty	Size
White Oak	1	2" C
Crabapple Tree	2	2" C
High bush Blueberry	5	#3



White Oak



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Crabapple Tree



High Bush Blueberry

Fee Structure

Start Date: To Be Determined - 2014

Proposal Price based upon the work described above is: Itemized above

Initial Deposit: TBD

Balance due upon completion: TBD

We truly appreciate your interest and look forward to working with you. If this proposal is acceptable, please contact me and I will provide you with an agreement to review and sign. Please do not hesitate to contact us if you have any thoughts or questions.

Thank you for the opportunity to present this proposal.

Mark Smith
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To learn more about our firm, please visit us online at www.belknaplandscape.com